SYNOPSIS

DETERMINANTS OF TRADING BEHAVIOUR OF RETAIL INVESTORS IN DERIVATIVE MARKET – A MULTIDIMENSIONAL APPROACH

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1. Introduction

Financial markets have undergone a significant transformation over the past few decades, with the emergence of derivative market. The derivative market, encompassing futures, options, swaps, and other financial instruments, offers investors opportunities for hedging, speculation, and risk management. India's journey with financial derivatives embarks in the year 2000 when both the stock exchanges National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) commenced trading in derivatives. India's experience with derivatives has been exceedingly positive. India is one of the most successful developing countries in terms of a vibrant market for exchange-traded derivatives. Thus, by enhancing the liquidity and efficiency of the cash market, derivative market development results in productive investments and economic growth. Among the diverse participants in this market, retail investors have gained considerable attention due to their increasing involvement and unique trading behaviours. Retail investors, unlike institutional investors, are typically individuals or small groups of investors trading on their own behalf. Derivative instruments are giving a chance to retail investors who are willing to take risks, those who are risk averse can transfer that risk to those investors who are having a positive attitude towards taking the risk and making a yield from the trade in the derivative market.

Behavioural factors influence the retail investors to determine the proportion of investment while choosing the instrument in derivative market (Boda *et al*., 2016).). The "demand and supply" lead to price discovery; apart from the economic factor, the psychological factors have a positive and negative impact on their investment decisions (Sinha, 2015). The various recent theories on behavioural finance suggest that numerous cognitive and psychological errors can also impact the investment decisions of retail investors (Chandrakala and Raja Kamal, 2024). Behavioural finance is based on the psychology, finance and sociology. The investors' emotions are measured under behavioural finance based on different approaches, underlying theories, behavioural factors and variables. Investors' behaviour discloses that trading decisions are influenced by psychological factors (Ige and Adebayo, 2024). Regardless of evaluating the fundamental analysis of the company, the investor is still concerned about certain emotional items and not many investors are aware of how to handle the financial activities and their investment decisions (Jain *et al*, 2019). It is significant to understand the characteristics which motivates the investor to trade in the derivative market with the aspects

of money and risk attitudes, personality traits, behavioural biases, financial literacy and self-efficacy.

2. Review of Literature

Financial market anomalies lead to the rise of behavioural finance (Yiwen, 2021). The decision-making process of investors comprises many psychological changes, which reflects in behaviour (Venkatapathy and Sultana, 2016). The investor's behaviour was elaborated by psychologists by stressing the characteristics which shape their investment decisions. Emotive and cognitive aspects may interfere with making illogical investment decisions (Osamor *et al*., 2019). Feelings and emotions hold an important place in the investment decision of equity investors. It is said that individuals do not perform logically every time and it is difficult to expect investors to enlarge their utility which is impossible in reality (Shukla *et al*., 2022). Both young and experienced investors are also affected by biases (Venkatapathy and Sultana, 2016). Experienced and seasoned investors have gained success by overcoming biases and also avoiding making the same mistakes (Baker and Ricciardi, 2014). Younger, male, low-income, and low-literate investors show more overconfident behaviour. Investors are more overconfident in less developed countries than in more developed countries (Sujesh, 2021). Overconfidence is dangerous to wealth which decreases the return with an increase in turnover (Tekçe and Yılmaz, 2019). Irrational decision-making affects the middle-class or low-income groups, so necessary care should be taken while deciding (Kumar *et al*., 2015). Higher financial literacy was found in investors with higher education and who have richer investment decisions (Bellofatto *et al*., 2018). Financial self- efficacy has a changeless annotative power for risk attitude (Chris Brooks, 2021). Most the investors prefer blue-chip stocks, which reduces the investor's perception towards the risk. It gives investors only some chance of loss since these stocks usually earn a profit so many investors go for investing in them (Ahmed *et al*., 2022).

Different studies have examined the influence of various psychological factors and behavioural biases in derivative market. In majority of the studies only one set of variables is being concentrated which influences an individual's investment behaviour, but investors' behaviour cannot be adequately described by measuring a single trait or attribute because while trading in the financial market investors shows their most multifaceted behaviour that cannot be explained by traditional models. The comprehensive multidimensional investigation has not yet been conducted that takes everything into account. Therefore, it is imperative to effectively conduct a multidimensional study covering the psychological, financial and sociological factors that affect the behaviour of retail investors in derivative market.

3. Statement of the Problem

Derivative market has reformed with new financial products with a huge net worth over the years and is an efficient platform for investors all over the world. Derivatives are not derived from the underlying assets but it's the underlying stock that derives its value from the derivative. The growth of derivatives is faster than their underlying assets and it is critical to Indian Market (Shekhawat, 2019). Earlier, the Indian derivative market was dominated by institutional investor, with a little participation of individual investors due to lack of awareness and comprehension of the product (Cirappa and Tejashwini, 2022). The regulators have expressed concern regarding participation of unsophisticated small investors in derivative market (Tantri and Thota, 2015). Before COVID19 pandemic, institutional investors dominated the global stock markets, pumping massive sums of money into the market but retail investing was less dominant (Naik *et al*, 2021). The rise of newly empowered retail investors came in 2020 which flooded the market where the number of retail investors increased by around 10.4 billion. In 2021, there was an explosive retail investors participation with over 4.5 million new accounts added. These numbers clearly show the era of Indian retail investor (Khandal, 2022). Retail investors' holding in NSE listed companies as of 2023 rose to a 15 year high of 9.7 percent in derivative market. The entry of small investors is likely to increase valuations in derivative market. Their ability to compete with institutional investors came not from the amount of capital they invested but the size of retail investor segment (Pallathadka *et al*, 2022). Retail investors are taking over derivative market and building wealth for themselves and for the country (Upputuri *et al*, 2021). NSE says that retail participation has increased in derivative segment which was in line with cash segment. The intention to invest in derivative market is highly influenced by the investor's behaviour. The investors quickly react to the changes that occur in the market because they cannot be restricted to a particular behaviour (Ngoc, 2013). Investor behaviour is shaped by a combination of psychological, financial, and social factors, creating a triangular influence in the field of behavioural finance. Psychological factors include biases, emotions, and cognitive limitations that impact decision-making. Financial factors encompass individual financial health, their efficiency and financial knowledge, all of which guide investment choices. Social factors involve the influence of the behaviour of peers and influencers. Together, these three dimensions interact dynamically, each influencing and being influenced by the others, to drive the behaviour of investors in the financial markets. Hence, when trading in the financial market, investors exhibit their most complex behaviour, which is incomprehensible by conventional models, making it impossible to accurately characterise investors' behaviour by focusing on a single feature or quality.

However, the specific impact of these factors on trading behaviour are not well understood. A deeper exploration into these factors is significant for dwelling effective regulatory policies, investors education programmes and enhancing market efficiency. By influencing the key drivers of trading behaviour, stakeholder can mitigate risks associated with retail participation in derivatives and promote informed decision making among investors.

4. Research Questions

- What are the products and sectors preferred by the retail investors in derivative market?
- Are retail investors aware of the features of Derivative market?
- Are retail investors satisfied with the derivative market and what are the problems encountered?
- What are the factors influencing the trading behaviour of retail investors in derivative market?
- Are multidimensional attributes effecting the trading behaviour of retail investors in derivative market?

5. Objectives of the Study

- To know the preferences of retail investors in Derivative Market
- To analyse the awareness of retail investors towards derivative trading
- To evaluate the satisfaction gained and challenges faced by retail investors in derivative trading
- To assess the Attitude, Personality Traits, Behavioural Biases, Financial Literacy and Self – Efficacy of the retail investors on the trading behaviour
- To examine the effect of Attitude, Personality Traits and Behavioural Biases on derivative trading of retail investors with the moderating role of Financial Literacy and Self-Efficacy

6. Methodology

Coimbatore city was selected as the locale of the study. Coimbatore boasts a sizable population of retail investors who actively participate in financial markets, including the derivative market. The city's entrepreneurial spirit and investor culture make it an ideal setting for studying retail investors' behaviour towards derivative trading. Coimbatore's economic vibrancy, demographic diversity, academic excellence, geographic versatility, and supportive ecosystem make it a choice for studying the behaviour of retail investors in the derivative market. Its unique blend of factors offers a rich and conducive environment to explore the intricacies of investor decision-making, market dynamics, and financial outcomes in the derivative trading landscape. The data was collected through primary and secondary source.

The primary data was collected using questionnaires. The questionnaire was constructed with the attributes of money attitude (Yang et al., 2021; Nadeem et al., 2020), risk attitude (Ali, 2011), financial literacy (Yang et al., 2021; Akhter and Hoque, 2022) and self-efficacy (Charles et al., 2016), Personality Traits (Cheng Po Lai, 2019) and Behavioural Biases (Ardalan Rajabi, 2020) by using Likert scaling technique.

Using Cochran's formula (1977) the sample size was derived as 384 respondents. The population of the study constitutes the investors who are trading in Derivative Market from Coimbatore city. Since the investors were scattered, they were identified through stock broking companies. Hence, investors with accounts managed by stockbroking companies became a target population for the study. The Coimbatore city was divided into five zone: Central, North, South, East and West. From each zone two stock broking companies were chosen based on criteria's largest number of retail investors trading in derivative market. The investors investing in stock market were excluded from data collection. The sample of 384 was proportionately divided among the ten broking firms.

7. Conceptual Framework of the Study

Behavioural finance aims to understand the trading behaviour of retail investors in the derivative market. A model was subsequently designed based on this theory using psychology, finance and sociology to identify the trading behaviour of retail investors. Theory of planned behaviour, Big five Personality traits theory was adopted to select the variables for the study.

The independent variables, extracted from the trading behaviour model, include factors such as Attitude, Behavioural Biases and Personality traits. Together, these factors provide a comprehensive view of how psychological dimensions drive investor actions. Financial Literacy, and Self-Efficacy by incorporating these factors, the study acknowledges that not only psychological but also financial aspects significantly shape investor behaviour, bridging the gap between knowledge, confidence, and action in financial decision-making. while Trading Behaviour is the dependent variable. While trading behaviour is influenced by individual psychology, they also intersect significantly with sociological aspects, highlighting the importance of social context in financial decision-making within the derivative market

The following hypotheses was framed based on the conceptual model.

- **H_{a1}** - There is a significant impact of Attitude on satisfaction in derivative trading
- **H_{a2}** - Behavioural biases significantly affect the satisfaction in derivative trading
- **H_{a3}** - Personality Traits affect satisfaction in derivative trading through Financial Literacy

- **H_{a4}** - Financial Literacy moderates the relationship between Attitude and Behavioural Biases and satisfaction in derivative trading
- **H_{a5}** - Self – Efficacy moderates the relationship between Attitude and Behavioural Biases and satisfaction in derivative trading
- **H_{a6}** – Satisfaction in derivative trading significantly affects the Intention to Invest
- **H_{a7}** - Intention to Invest significantly affects the Trading Behaviour of retail investors

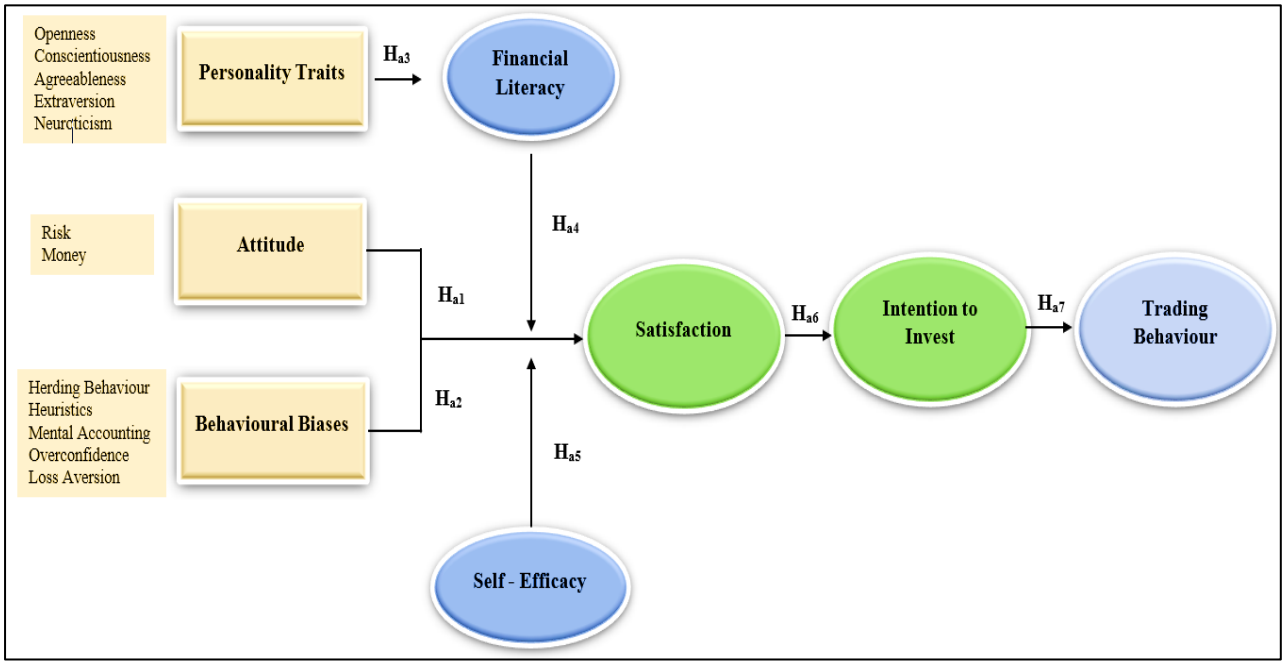

Figure 1 Proposed Model on Multidimensional Behaviour of Retail Investors

8. Framework of Analysis

S. No	Tools	Purpose
1.	Descriptive Statistics	To know product – wise and sector wise preference of retail investors in Derivative Market
2.	ANOVA	To analyse the awareness of retail investors towards derivative trading
3.	MANOVA Mean Ranking	To evaluate the satisfaction gained and challenges faced by retail investors in derivative trading
4.	Confirmatory Factor Analysis Multiple Regression	To assess the predefined factors of Attitude, Personality Traits, Behavioural Biases, Financial Literacy and Self - Efficacy
5.	PLS - SEM	To examine the combined effect of attitude, personality traits and behavioural biases on derivative trading of retail investors in line with the moderating role of financial literacy and self - efficacy

9. Findings of the Study

Hedgers are the largest group across all categories. Males and married individuals dominate the investment landscape, with a significant portion having graduate-level education. Income distribution indicates a higher concentration of investors in the middle-income groups, reflecting a diverse but skewed demographic inclination towards hedging as an investment strategy.

9.1 Preferences towards Derivative Market

9.1.1 Product – wise Preference

Majority of the investors prefer to invest Index futures from equity derivatives because of potential leverage with relatively low transaction cost. Crude oil from commodity derivatives was preferred more because of its pivotal role in the global economy, which they believe it offers lucrative opportunities. USD INR of currency derivatives was preferred much because US dollar's dominance in global trade and finance, providing higher liquidity and perceived stability.

9.1.2 Sector – wise Preference

Banking sector was preferred much among the retail investors as they feel safe than other stocks. The predictability of the stocks and regular yield, these factors make it a favoured choice for retail investors to prefer this sector. There is less preference towards pharma sector since there is high volatility of the sector, due to lack of knowledge and understanding of the industry makes it less prefer by the retail investors.

9.2 Awareness towards the Derivative Market Terminologies

Age plays a significant role in individual's level of awareness and familiarity with derivative Market terminologies. Younger participants tend to exhibit higher level of awareness possibly due to greater exposure of financial education. Older participants may have less familiarity with derivative market concept, reflecting differences in generational experiences. There is mean a significant difference in between Education and Awareness. Higher qualification likely to correlate with greater Awareness and understanding of derivative terminologies. This finding underscores the importance of educational initiatives in fostering broader Awareness. The findings suggest that individual across various income irrespective of their earnings. While income can influence investment decisions but it does not appear to be a determining factor for measuring the awareness of Derivative market concepts.

9.3 Satisfaction and Challenges in Derivative Market

9.3.1 Satisfaction in Derivative Market and Socio – economic Factors

Gender plays a crucial role in shaping satisfaction levels within the derivative market. It is indicated that male and female investors often exhibit distinct preferences, risk perceptions, and satisfaction criteria when engaging with financial instruments like derivatives. Age significantly influences various dimensions of satisfaction among investors. Specifically, older and younger investors exhibit distinct perceptions of risk, rate of return, and transparency of information in the derivative market. It suggests that age is a critical factor in shaping investor experiences and satisfaction. Educational qualification influences satisfaction level in the derivative market. Individuals with higher educational backgrounds often possess a better understanding of complex financial instruments and market dynamics, leading to more informed decision-making and risk management. This comprehensive knowledge base typically results in higher confidence and satisfaction as these investors are better equipped to navigate the volatile and intricate nature of derivatives trading. Conversely, those with lower educational qualifications may find the derivative market more challenging and intimidating, potentially leading to lower satisfaction due to a lack of understanding and increased risk exposure. Thus, educational qualifications are a critical factor in determining overall satisfaction and success in the derivative market. Marital status is a critical factor in understanding investor satisfaction, indicating that married and unmarried individuals may have different experiences and perceptions in the derivative market. Annual income and satisfaction in the derivative market are crucial metrics reflecting both financial performance and investor contentment. The relationship between annual income and satisfaction underscores the impact of financial outcomes on investor sentiment within the derivative market. Higher annual incomes typically correlate with greater satisfaction, indicating successful investment strategies or favourable market conditions. Conversely, lower incomes may lead to dissatisfaction, highlighting potential challenges or losses within derivative investments.

9.3.2 Challenges faced by Retail Investors in Derivative Market

The complexity of financial instruments is perceived as the most significant challenge, indicating that investors find these instruments difficult to understand. Lack of timely information follows closely, suggesting that timely access to relevant data is crucial for effective decision-making. Misleading information from brokers is another major concern, reflecting the need for transparency and reliability in advice and information. Available only in lots, maintaining margin money, and familiarity with the market are also notable challenges,

though they rank lower. High speculation and huge volatility, while important, are perceived as less critical compared to other issues. Overall, these rankings provide insight into the factors that investors find most troublesome, which could help in addressing and mitigating these challenges.

9.4 Personality Traits, Attitude and Behavioural Biases towards Trading Behaviour

The assessment of the factors attitude, personality traits, financial literacy, behavioural biases and self – efficacy provides an insight into individuals financial behaviour enabling tailored interventions and strategies to improve financial well-being.

9.4.1 Personality Traits towards Trading Behaviour

All five personality traits—openness, conscientiousness, extraversion, agreeableness, and neuroticism—have a significant impact on trading behaviour. Each trait shows a positive relationship with trading behaviour, meaning that variations in these personality traits are associated with differences in how individuals engage in trading. Openness, conscientiousness, extraversion, agreeableness, and neuroticism all exhibit strong statistical significance, suggesting that these personality dimensions play a crucial role in shaping trading decisions and actions. The consistent significance across traits underscores the importance of understanding how individual personality characteristics influence trading behaviour.

9.4.2 Attitude towards Trading Behaviour

Risk attitude and money attitude significantly influence trading behaviour. The positive relationships between these attitudes and trading behaviour indicate that individuals' perceptions of risk and their attitudes towards money play important roles in shaping their trading actions. Specifically, a higher risk attitude and a more positive money attitude are associated with more pronounced trading behaviours. The statistical significance of these relationships highlights the importance of considering these attitudes when evaluating and understanding trading practices, suggesting that both risk perception and financial outlook are key factors in trading decisions.

9.4.3 Behavioural Biases towards Trading Behaviour

Herding behaviour, heuristics, overconfidence, mental accounting, and loss aversion—all significantly influence trading behaviour. Each of these factors shows a positive relationship with trading behaviour, suggesting that they play substantial roles in shaping how individuals engage in trading. Herding behaviour, heuristics, overconfidence, mental accounting, and loss aversion each significantly impact trading decisions, with mental accounting and loss aversion demonstrating the strongest relationships. This significance underscores the importance of

psychological factors in trading practices, highlighting how individual cognitive biases and behavioural tendencies can affect trading strategies and outcomes.

9.5 Multidimensional Trading Behaviour of Retail Investors in Derivative Market

- **Internal Consistency Reliability and Convergent Validity of the factors**

The results of Cronbach's Alpha, composite reliability, and Average Variance Extracted (AVE) across various constructs provide insights into the reliability and validity of the measurement instruments used in the study. Overall, the constructs demonstrate strong internal consistency, with Cronbach's Alpha values ranging from 0.706 to 0.858, indicating reliable measurement of latent variables. Composite reliability scores, which range from 0.721 to 0.973, further confirm the robustness of the constructs in capturing the intended dimensions. AVE values, which range from 0.703 to 0.966, indicate that each construct explains a substantial proportion of its variance relative to measurement error, suggesting adequate convergent validity. These findings collectively highlight in assessing a wide range of psychological and behavioural constructs related to investor decision-making and attitudes towards financial markets.

- **Direct Effect of Personality Traits, Attitude and Behavioural Biases towards Trading Behaviour**

Path Coefficients and Direct Regression is to measure the strength and direction of relations between variables in a model, showing how changes in one variable directly influences another. The analysis of direct effects reveals significant relationships between various personality traits, cognitive biases, and satisfaction levels with financial literacy and trading behaviour. Openness, conscientiousness, extraversion, agreeability, and neuroticism positively influence financial literacy, indicating that these traits enhance an individual's financial knowledge. Similarly, factors such as risk-taking, money management, herding behaviour, heuristics, overconfidence, mental accounting, loss aversion, and self-efficacy all positively contribute to overall satisfaction. This satisfaction, in turn, significantly boosts the intention to invest, which directly impacts trading behaviour. It indicates that all direct effects are significant, with a positive relationship between Personality Traits, Behavioural Biases, Attitude and Satisfaction ultimately influencing Trading Behaviour as evidence by high coefficients and low p-values.

- **Moderation Effects of Financial Literacy and Self – Efficacy on Satisfaction in Derivative Market**

Path coefficient and Moderation effect measures the strength of variables while moderation effect assess how the strength and direction of these relationships' changes depending on the

level of another variable. The analysis of moderation effects demonstrates that financial literacy and self-efficacy significantly influence the relationship between various factors and overall satisfaction. Financial literacy shows high moderation with risk, herding behaviour, heuristics, mental accounting, and loss aversion, indicating that individuals with higher financial literacy are better at utilizing these aspects to enhance their satisfaction. It also partially moderates the relationship between money, overconfidence, and satisfaction. Similarly, self-efficacy exhibits high moderation with money, herding behaviour, heuristics, overconfidence, and loss aversion, suggesting that individuals with greater self-efficacy can leverage these factors to achieve higher satisfaction. Self-efficacy also partially moderates the impact of risk and mental accounting on satisfaction. The moderating factors Financial Literacy and Self-efficacy significantly moderate the relation between various factors and satisfaction with most interaction showing high and partial moderation.

- **Relationship between Psychological, Financial and Sociological Factors on Trading Behaviour**

HTMT Matric for Discriminant Validity was used to assess whether constructs are sufficiently distinct from each other, ensuring that constructs do not overlap excessively. The provided correlation matrix shows the relationships between various constructs in the study. Each cell represents the correlation coefficient between two constructs, with higher values indicating stronger associations. Constructs such as Agreeability, Loss Aversion, Herding Behaviour, Heuristics, Mental Accounting, and Overconfidence exhibit moderate to strong positive correlations among themselves and with other constructs like Conscientiousness, Extraversion, Financial literacy, Intention, Investor behaviour, Money, Neuroticism, Openness, Risk, Satisfaction, and Self-Efficacy. These correlations highlight interdependencies and potential influences between different psychological and behavioural factors studied in the context of financial decision-making and investor behaviour. The results shows that the values are below the common threshold of 0.85 (Henseler *et al*., 2015) indicating that the constructs are distinct.

- **Collinearity Assessment of Factors**

The Variance Inflation Factor (VIF) values for various indicators related to investment behaviour, particularly in the derivatives market. The collinearity issue in the examined model has initially been examined as a presumptive approach because it adversely affects the data and the extracted findings. Given this, the variance of the inflation factor values (VIF) has been investigated. The findings that all inflation factor results fell within the expert-set upper limit

of (5) (Hair et al, 2019). Indicating the accuracy of the data, all inflation factor variance values fell within the range of 1.02 and 2.30. this indicates that the factors are free from multi – collinearity issue.

- **Determination of Trading Behaviour of Retail Investors in Derivative Market**

The provided R-square and Adjusted R-square values indicate how well the independent variables explain the variance in the dependent variables of the model. For Financial Literacy, the R-square is 0.637, meaning that 63.7% of the variability in Financial Literacy can be explained by the model, and the Adjusted R-square is slightly lower at 0.618, reflecting a minor adjustment for the number of predictors. Satisfaction shows an R-square of 0.722, indicating that 72.2% of its variability is explained by the model, with an Adjusted R-square of 0.700, also showing a small adjustment. Intention has an R-square of 0.601 and an almost identical Adjusted R-square of 0.600, indicating a high explanatory power with minimal adjustment. Trading Behaviour shows an R-square and Adjusted R-square both at 0.664, suggesting that 66.4% of the variance is consistently explained without any adjustment needed. This model shows a strong fit, with the adjusted R-square matching the R-square, suggesting that the model is appropriately specified without undue complexity or overfitting. The high explanatory power indicates that the variables included are highly relevant for understanding trading behaviour.

- **Impact of Psychological and Financial Factors on Satisfaction of Retail Investors**

F-square value of 1.609 indicates the total proportion of variance in Satisfaction explained by all predictors together, implying a reasonably comprehensive model. This analysis underscores the specific influence of behavioural biases and contextual factors (like Risk and Money) on individual satisfaction levels in investment decision-making contexts. It suggests that while each factor contributes uniquely in explaining the Satisfaction, Herding Behaviour and Overconfidence emerge as particularly influential in shaping individuals' perceived satisfaction with their investment decisions.

- **Multidimensional Behaviour of Retail Investors in Derivative Market**

Financial Literacy has a high moderating effect on investors' intention to invest in derivative markets with a value of 0.637 per cent. The derivative market is very different in terms of both performance and operations. As a result, trading in the derivatives market is more influenced by financial literacy among regular investors. A positive correlation exists between the variables. Behavioural biases affect the behaviour of investors in the derivative market but the herding bias impact is more when compared to other biases. Personality traits positively affect the financial literacy of the investors in the derivative market especially the influence of

extraversion traits towards financial literacy more than other traits and the Attitude of the retail investors affects the satisfaction in the derivative market. Risk attitude is more effective than the money attitude of the investors. Self–efficacy plays an important role in determining the investment of retail investors but has a less moderating effect when compared to financial literacy.

10. Conclusion

Investment in the financial market has transformed from static finance to behavioural finance (S. Shukla et al., 2022). In the present scenario, modern finance has progressively grown replacing traditional finance which lacks psychological influence among investors (Madaan & Singh, 2019). Of the increased participation of investors in the derivative market, various kinds of changes have taken place in the market including market anomalies. This study contributed to understanding the variables that affect the retail investor's behaviour in the derivative market. This study fills the gap present in previous studies by covering all the variables that impact the retail investor's behaviour in the derivative market and analysing the moderating effect of financial literacy and self-efficacy towards trade in the derivative market. The results concluded that most investors prefer to invest in a derivative market since risk factors can be minimised to a great extent and there are a variety of products. The study concluded that the factors of personality traits, behavioural biases and attitude (psychological) have a positive relationship towards satisfaction in the derivative market and financial literacy and self-efficacy (financial) have a moderating effect on intention to invest in the derivative market ultimately affecting the retail investors' trading behaviour (sociological). Thus, these multidimensional factors affect the trading behaviour of retail investors in derivative market. Further research can be done on institutional investors and their trading behaviour in the derivative market since this study is based on retail investors and external and social factors can be added for future studies.

11. References

- Ahmed, Z., Rasool, S., Saleem, Q., Khan, M. A., & Kanwal, S. (2022). Mediating role of risk perception between behavioural biases and investor's investment decisions. Sage Open, 12(2), 21582440221097394.
- Baker, H. K., & Ricciardi, V. (2014). How biases affect investor behaviour. The European Financial Review, 7-10.
- Bellofatto, A., D'Hondt, C., & De Winne, R. (2018). Subjective financial literacy and retail investors' behaviour. Journal of Banking & finance, 92, 168-181.

- Boda, J. R., Guniganti, S., & Ray, P. (2016). A study on the behavioural aspects of retail investors for investment decision making in telangana state. Journal of Business and Economics Review (JBER), 1(1), 51-59.
- Brooks, C., & Williams, L. (2021). The impact of personality traits on attitude to financial risk. Research in International Business and Finance, 58, 101501.
- Chandrakala, M., & Ch, R. K. (2024). A Study on Behavioural Finance Investment Decisions of Investors in Bangalore. In Digital Technology and Changing Roles in Managerial and Financial Accounting: Theoretical Knowledge and Practical Application (pp. 181-190). Emerald Publishing Limited.
- Cirappa, I. B., & Tejashwini, K. C. (2022). The Relationship between Awareness and Retail Investors' Investment Intentions in the Derivatives Market. International Journal of Management and Humanities, 9(2), 10-13.
- Cochran, W. G. (1977). Sampling techniques. John Wiley & Sons.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European business review, 31(1), 2-24.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. Journal of the academy of marketing science, 43, 115-135
- Ige, B. O., & Adebayo, R. O. (2024). The influences of psychological factors on investors decision making in the South African derivative market. International Journal of Research in Business and Social Science (2147-4478), 13(1), 267-278.
- Jain, J., Walia, N., & Gupta, S. (2019). Evaluation of behavioural biases affecting investment decision making of individual equity investors by fuzzy analytic hierarchy process. Review of Behavioural Finance, 12(3), 297-314.
- Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making–a systematic literature review. Qualitative Research in financial markets, 7(1), 88-108.
- Lai, C. P. (2019). Personality traits and stock investment of individuals. Sustainability, 11(19), 5474.
- Nadeem, M. A., Qamar, M. A. J., Nazir, M. S., Ahmad, I., Timoshin, A., & Shehzad, K. (2020). How investors attitudes shape stock market participation in the presence of financial self-efficacy. Frontiers in Psychology, 11, 553351.

- Rahman, M. A., Chowdhury, S. S. H., & Sadique, M. S. (2015). Herding where retail investors dominate trading: The case of Saudi Arabia. The Quarterly Review of Economics and Finance, 57, 46-60.
- Rajabi, A., Mlgrny, A. M., & Hamidiyan, M. (2020). Provide A Model for Mass Behaviour in Investor Decision-Marking In Investment Companies. PalArch's Journal of Archaeology of Egypt/Egyptology, 17(9), 9229-9245.
- Shekhawat, A. N. (2016), "Emerging Trends in the Indian Derivatives Market, Challenges and Future Prospects" 6(5), 95–102
- Shukla, S., Tripathi, A. R., Shukla, S. K., & Shukla, A. (2022). The impact of self-serving bias on selection of stocks by retail investors in equity market: a study of the urban middle class of India. European Journal of Business and Management Research, 7(3), 1-6.
- Sinha, P. (2015). Stocks' pricing dynamics and behavioural finance: A review. Management Science Letters, 5(9), 797-820.
- Venkatapathy, R., & Sultana, A. H. (2016). Behavioural finance: heuristics in investment decisions. TEJAS Thiagarajar College Journal, 1(2), 35-44.
- Yang, M., Mamun, A. A., Mohiuddin, M., Al-Shami, S. S. A., & Zainol, N. R. (2021). Predicting stock market investment intention and behaviour among Malaysian working adults using partial least squares structural equation modelling. Mathematics, 9(8), 873.
- Yiwen, H. (2021, December). Impact of investors' loss aversion and overconfidence on market performance evidence from China Stock Markets. In 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021) (pp. 2022-2025). Atlantis Press.